TESTIMONIALS

IN FAVOUR OF

John Waddell,

B.A., B.Sc., Ph.D., D.Sc.

Al

F5012.1897.W116

The EDITH *and* LORNE PIERCE
COLLECTION *of* CANADIANA

Queen's University at Kingston

10 00
78

TESTIMONIALS

IN FAVOUR OF

JOHN WADDELL

Bachelor of Arts, Dalhousie College, Nova Scotia: Bachelor of Science of the University of London; Doctor of Philosophy of the University of Heidelberg; Doctor of Science of the University of Edinburgh; Formerly Hope Prizeman and Vans Dunlop Scholar in the University of Edinburgh; Late Professor of Science in the Royal Military College of Canada.

KINGSTON, ONT.:
WILLIAM JACKSON, PRINTER.

CONTENTS.

	PAGE
STATEMENT BY THE CANDIDATE,	4
List of Academic Honours and Appointments,	6
List of Papers in Scientific Journals,	7
Testimonials from—	
1. ROBERT WILHELM BUNSEN, Professor of Chemistry in the University of Heidelberg,	8
2. ALEX. CRUM BROWN, M.D., D.Sc., F.R.S.L. & E., Professor of Chemistry in the University of Edinburgh,	9
3. GEORGE CHRYSTAL, M.A., Professor of Mathematics in the University of Edinburgh,	10
4. P. G. TAIT, M.A., Sec. R. S. E., Hon. Fellow of St. Peter's College, Cambridge, Professor of Natural Philosophy in the University of Edinburgh,	10
5. JAMES GEIKIE, LL.D., F.R.S., &c., Murchison Professor of Geology and Mineralogy, University of Edinburgh,	11
6. JOHN GIBSON, PH.D., F.R.S.E., F.I.C., Senior Demonstrator in the Chemical Laboratory of the University of Edinburgh,	12
7. CARGILL G. KNOTT, D.Sc., (Edin.), F.R.S.E., Professor of Physics, Imperial University, Japan, formerly Assistant to the Chair of Natural Philosophy, Edinburgh University,	13
8. A. P. AITKEN, M.A., D.Sc., F.R.S.E., Professor of Chemistry in the Royal Veterinary College; Examiner in Chemistry in the University of Edinburgh; Chemist in the Highland and Agricultural Society of Scotland,	14
9. ORME MASSON, M.A., D.Sc., F.R.S.E., Late Elective Fellow in the University of Edinburgh; Professor of Chemistry in the University of Melbourne,	15
10. The Students in the Chemical Laboratory of the University of Edinburgh,	16
11. GERALD KITSON, Lt.-Colonel, Commandant of the Royal Military College, of Canada,	17
12. CAPT. J. B. COCHRANE, Instructor of Science in the Royal Military College of Canada,	17
13. ADAM SHORTT, M.A., Professor of Political Science, Queen's University, Kingston, Ont.,	18
14. W. L. GOODWIN, B.Sc., (London) D.Sc., (Edin.) F.R.S.C., Director of the School of Mining, Kingston, Ont.,	19

3028861

Statement by the Candidate.

In applying for

I beg to submit the following statement regarding my academic career and my qualifications for filling the post for which I offer myself as a candidate.

After a preliminary education at Picton Academy, I entered Dalhousie College in 1873, gaining one (of two) of the Professors' Scholarships entitling the winner, so long as he maintained a sufficiently high standard in his examinations, to free attendance on the professors' lectures. This Scholarship I kept throughout my course, and besides several class prizes, I won, in my third year, the "Alumni Prize" and the "Waverley Prize", though owing to the regulation preventing them being held concurrently, I retained the latter only. In 1877 I graduated as B.A. with Honours in Mathematics, and the Governor-General's Gold Medal.

In 1880 I went to Edinburgh and studied there mainly under Professor Crum Brown and Professor Tait. I also spent a few months in London, and in 1882 gained the Degree of B.Sc. from that University. The succeeding year I gained the same degree in Edinburgh, and on winning the Hope Prize in Chemistry (value one hundred pounds) I went to Germany and studied in Heidelberg under Kopp and Bunsen, working in the laboratory of the latter, and in 1884 obtained the degree of Ph.D. (insigni cum laude).

On returning to Edinburgh I was appointed Assistant to the Professor of Chemistry, and in 1885 I won the Vans Dunlop Scholarship in Chemistry (worth one hundred pounds annually for three years.)

In 1886 I took the degree of D.Sc. in Edinburgh, my thesis being on "The Atomic Weight of Tungsten," an abstract of which was published in the Transactions of the Royal Society of Edinburgh and in the American Chemical Journal. In the Autumn of 1886 I was appointed Professor of Science in the Royal Military College of Canada, which position I have held till the present. The shortening of the course from four years to three makes it impossible for the students who will in future come to the Military College to overtake the work which has formerly been taught in my department, and thus the necessity for my services has been done away with.

As, however, my later testimonials show, I think I can claim to have maintained that steady application to the work of my department which received during my University course the reward of University Honours, and obtained for me the commendation of my professors, colleagues and students.

Though devoting myself mainly to the instructional work of my department, which took up ten months of the year, and endeavouring to keep myself in touch with the advances on all sides of the subjects which I had to teach, I have published several original papers and articles of an educational nature in various English and American Scientific Journals.

Perhaps I ought to add that I am now thirty-eight years of age.

JOHN WADDELL.

189 Johnston Street,
Kingston, Ont., July 1st, 1897.

List of Academic Honours and Appointments.

1877....Graduated B.A., Dalhousie College, Nova Scotia.
Honours in Mathematics and Governor-General's Gold Medal.

1882....Graduated B.Sc., London.

1883....Graduated B.Sc., Edinburgh.
Hope Prize in Chemistry.

1884....Graduated Ph.D. (insigni cum laude) in the University of Heidelberg.
Appointed Assistant to the Professor of Chemistry in the University of Edinburgh.

1885....Vans Dunlop Scholarship in Chemistry, Edinburgh University.

1886....Graduated D.Sc., University of Edinburgh
Appointed Professor of Science in the Royal Military College of Canada.

List of Papers in Scientific Journals.

I. *On the Atomic Weight of Tungsten :* "Transactions of the Royal Society of Edinburgh, 1886, and American Chemical Journal, VIII, 280 (1886).

II. *Notes on Electrolysis :*
The Electrician XXXIII, 177 (1894).

III. *Electrical Difference of Potential :*
The Electrical World XXIV, 589 (1894).

IV. *Experiments on the Vapour Pressures of Concentrated Solutions of several Salts, especially Lithium and Calcium Nitrates :*
The Chemical News LXXII, 207 (1895).

V. *Electrical Discharge in the Atmosphere and in Vacuum Tubes :*
The Electrical World XXVII, 254 (1896).

VI. *The Permeability of Various Elements to the Roentgen Rays :*
The Chemical News LXXIV, 298 (1896).

VII. *The Permeability of Elements of Low Atomic Weight to the Roentgen Rays :*
[To be read before the British Association Meeting in Toronto, (1896).]

TESTIMONIALS.

I.

From ROBERT WILHELM BUNSEN, *Professor of Chemistry in the University of Heidelberg.*

Gerne bezeuge ich Herrn Dr. Waddell dass derselbe wæhrend zweier Semester von October, 1883, bis August, 1884, sich auf das eifrigste mit wissenschaftlichen Arbeiten in meinem Laboratorium beschæftigt hat.

Mit Vergnuegen habe ich wæhrend dieser Zeit Veranlassung gehabt, die eben so ausdauernden als erfolgreichen wissenschaftlichen Bestrebungen desselben anzuerkennen.

Der Erfolg mit welchem derselbe seinen Studien obgelegen hat gewæhrt mir die Ueberzeugung dass derselbe eine seiner gruendlichen wissenschaftlichen Ausbildung entsprechende Stellung in anerkennenswerthen Weise ausfuellen wird.

R. W. BUNSEN.

HEIDELBERG,
den 23n April, 1896.

II

From ALEX. CRUM BROWN, M.D., D.Sc., F.R.S.L. & E.
Professor of Chemistry in the University of Edinburgh.

I have much pleasure in bearing witness to the ability and attainments of Dr John Waddell, whom I have known intimately since he came to Edinburgh His diligence and the intelligent way in which he carried on his studies and practical work are sufficiently proved by his success in obtaining University distinctions, degrees and prizes, into the details of which I need not enter, as he has official evidence in reference to them, but as his chemical work in Edinburgh was carried on under my immediate observation, and as for a year he acted as one of my teaching assistants in the Laboratory, I am in a position to testify to matters on which formal certificates are necessarily silent.

In particular I can say that Dr. Waddell was a successful teacher and was personally liked by his students. He took pains to make himself thoroughly master of the details of the particular points in which he had to instruct others, while his extensive reading and his sound knowledge of chemistry and the allied sciences made his presence in the laboratory an advantage both to the students and to me.

Much of Dr. Waddell's time has been taken up in work of the greatest value in preparing him to take a high place as a teacher of Chemistry rather than in work likely to attract the notice of the scientific world. In doing so I think he has acted wisely, and I confidently look forward to his future as the more valuable for the sound foundation he has laid.

Dr. Waddell's position as Secretary of the University Chemical Society brought him into contact with scientific and practical men here, and familiarised him with business in a way which is, I think, of real value to one who may have to conduct the correspondence and attend to the affairs of a college, as well as teach his own special subject

ALEX. CRUM BROWN.

Sept 15th, 1886

III.

From GEORGE CHRYSTAL, M.A., *Professor of Mathematics in the University of Edinburgh*

I have much pleasure in speaking to that part of the scientific qualifications of Mr. John Waddell that happened to come under my observation. I examined him in Mathematics for the 1st B.Sc., and was struck with the quality of his work, so much so, that I mentioned it at the time to some of my co-examiners and to Mr. Waddell himself.

He has evidently kept up his interest in Mathematics, for he recently attended a special voluntary course of mine on Quaternions, and it was easy to see from conversation with him that he had a firm comprehension of the subject.

I have no hesitation in saying that Mr. Waddell's knowledge of Mathematics is quite sufficient to be of great use to him in his chemical work.

G. CHRYSTAL.

IV.

From P. G. TAIT, M.A., *Sec. R. S. E., Hon. Fellow of St Peter's College, Cambridge, Professor of Natural Philosophy in the University of Edinburgh.*

Dr. Waddell greatly distinguished himself during his student career in Edinburgh.

He has selected Chemistry as his chief subject of study, but he is no mere specialist. I can testify to the accuracy and extent of his knowledge of General Physics, and to the skill with which he worked in the Physical Laboratory.

He is well acquainted with the modes of instruction adopted in German, as well as in British Universities; and has had considerable experience in teaching.

His original work is already of high promise and completes the necessary qualifications for a chair.

P. G. TAIT.

COLLEGE, EDINBURGH, August 11th, 1896.

V.

From JAMES GEIKIE, LL.D., F.R.S., &c., *Murchison Professor of Geology and Mineralogy, University of Edinburgh.*

DEAR DR. WADDELL.—I have very much pleasure in acceding to your request for a testimonial

When you studied Geology under me I was led to form a high opinion of your scientific accomplishments. Our many excursions in the field gave me ample opportunities of testing your knowledge not only in Geology but in cognate subjects, and I was more than satisfied with the result. You have struck me as being not only an accurate observer, but a careful reasoner; and you are endowed with that love and enthusiasm for science without which no good or great work is ever accomplished.

If a wide range of knowledge, accurate observation, indefatigable zeal, and abounding energy are required for a scientific career, then I may safely predict for you a highly honourable future.

Earnestly wishing you all success,

Believe me, yours very truly,

JAMES GEIKIE.

17th May, 1886.

VI.

From JOHN GIBSON, PH.D., F.R.S.E., F.I.C., *Senior Demonstrator in the Chemical Laboratory of the University of Edinburgh.*

I have for several years back had special opportunities for watching Dr. Waddell's career as a student and latterly as a teacher of Chemical Science. From 1880-1883, Dr. Waddell was one of the best pupils in the laboratory, distinguishing himself especially by great energy and love of work. It was, therefore, with no surprise that I saw him gain the Hope prize, the highest distinction which the University awards to the student of Chemistry.

After two seasons spent in Heidelberg, under Bunsen, Dr. Waddell returned to Edinburgh where I was glad to welcome him as a colleague on his appointment to the post of Junior Demonstrator. During the past year he has devoted himself with characteristic energy to his duties as a teacher and has won from his pupils by his constant attendance to their interests, at once their esteem and gratitude.

Now that he is about to leave us, I gladly avail myself of the opportunity to give expression to my confidence in his future career and to add my best wishes to those of the many friends he leaves behind him here.

J. GIBSON.

Sept. 20th, 1886

VII.

From CARGILL G. KNOTT, D.Sc., *Edin.*, F.R.S.E., *Professor of Physics, Imperial University, Japan, formerly Assistant to the Chair of Natural Philosophy, Edinburgh University.*

I have much pleasure in testifying to the scientific abilities of Dr. John Waddell, Graduate of Science of the University of Edinburgh. As Assistant to the Professor of Natural Philosophy there, I had ample opportunity of judging his powers as a student. In the general class he stood first on the Honour List; and in the Physical Laboratory he proved himself to be a quick and accurate experimenter.

In the Examination Hall he distinguished himself by his knowledge of Physics, which was noticeably superior to what is usually possessed by the graduate in Chemical Science. From personal intercourse, also, I have been able to form a high opinion of his scientific attainments; and these, I think, are such as to make him well qualified to fill a chair of Chemistry, to which, I understand, he aspires, and with which I trust he will soon be rewarded.

CARGILL G. KNOTT.

TOKYO,
May 22nd, 1886

VIII.

From A. P. AITKEN, M.A., D.Sc., F.R.S.E., *Professor of Chemistry in the Royal Veterinary College; Examiner in Chemistry in the University of Edinburgh; Chemist in the Highland and Agricultural Society of Scotland.*

It gives me pleasure to testify that Dr. John Waddell is one of the most proficient and enthusiastic of the students who have studied Chemistry and worked in the Chemical Laboratory of the University of Edinburgh during recent years.

His having taken the Degree of D.Sc. is sufficient evidence that he possesses a sound knowledge of the subject in which he graduated, but in obtaining that end he has taken honours by the way, and has shown since then that he is able to advance the progress of the science of Chemistry by means of original research, and that he is capable of guiding the progress of others who are engaged in Laboratory work and Chemical investigation.

A. P. AITKEN.

CHEMICAL LABORATORY, CLYDE ST.,
EDINBURGH, 16th July, 1886.

IX.

From ORME MASSON, M.A., D. Sc., F.R.S.E., *Late Elective Fellow in the University of Edinburgh; Professor of Chemistry in the University of Melbourne*

The thoroughness of Dr. John Waddell's training in Chemical and Physical Science is completely warranted by the fact that he has obtained the degree of D.Sc., in Edinburgh, and that of Ph.D., in Heidelberg; and, as he can add to these diplomas that of B.A. (Dalhousie College), and B.Sc. (London), there can be no doubt that he has had an academic experience more than usually rich and varied. A knowledge of different systems of teaching and examining is of great value to one who aspires to a University appointment; and there are certainly few chemists among Dr. Waddell's contemporaries who can equal him in this respect.

He has, moreover, already proved, during his tenure of assistantship in the University of Edinburgh, that he has the power of turning his thorough knowledge of Chemistry and his academic experience to good account and of imbuing his students with his own zealous spirit.

He is an able and indefatigable worker in the laboratory, and has all the qualities of a successful investigator.

Having known him for many years and having long worked side by side with him, I can speak with confidence, of his ability, industry and conscientiousness, and can warrant him a pleasant colleague.

ORME MASSON

EDINBURGH,
August 3rd, 1886.

X.

From the Students in the Chemical Laboratory of the University of Edinburgh.

DR. WADDELL,

We the undersigned, students in the Chemical Laboratory of the University of Edidburgh, having heard with regret that you have resigned your post as Assistant to the Professor of Chemistry, take this opportunity of giving expression to our deep sense of yaur high qualities as a chemist, a teacher and a man

In all our dealings with you we have found you to be courteous, painstaking and most zealous for our individual advancement in chemical knowledge

In your public demonstrations as well as in your private instruction you have given evidence not only of thorough scientific attainments, but also of the possession in a marked degree of that power of exposition by means of which knowledge is communicated from one to another, and which forms the essential qualifications of a successful teacher While urging us forward in our studies you would permit of no half done or slipshod work, and your warm personal interest in our progress, formed an incentive to our diligence and rendered us eager to excel

Some of us have begun our Chemical studies under your guidance ; some of us were advanced to a certain extent in the science before coming in contact with you, but one and all of us unite in bearing testimony to the benefit which we have derived from your instruction, and in expressing the conviction that a lofty and useful career lies before you as a teacher of Chemistry.

(Signed)

G. K. B. ELPHINSTONE.
ANDREW KING.
CHARLES STEVENSON.
HUGH ROBERT MILL.
T. R. MARSHALL.
ALEX. SMITH.
JAMES WALKER.
JAMES H. R. PATERSON.
A. S. WHITE.
CHARLES T. SPRAGUE.
JAMES G. ROSS.
F. MAITLAND GIBSON.
T. F. BARBOUR.
WILLIAM HOULDING.
P. C. RAY.

March 26th, 1886.

XI.

From GERALD KITSON, *Lt.-Colonel, Commandant of the Royal Military College of Canada.*

Dr. John Waddell has been Professor of Physics (including Electricity,) Chemistry, Geology and Mineralogy, for the last ten years; he is now leaving the Royal Military College, owing to the reduction of the staff, consequent on the re-organization of the College.

Dr. Waddell is a very clever, experienced Professor, and is especially qualified, in my opinion, to teach students who are already well grounded in their subject, and who are anxious for instruction in the higher branches of study.

GERALD KITSON.

ROYAL MILITARY COLLEGE,
KINGSTON, ONT., May 17th, 1897.

XII.

From CAPT. J. B. COCHRANE, *Instructor of Science in the Royal Military College of Canada.*

MY DEAR WADDELL,—It was with sincere regret that I heard that the remodelling of the course of studies at the Royal Military College would deprive the staff, in you, of a member so eminently qualified to fill the position you have occupied of Professor of Science.

During the ten years in which you have acted as Professor in the subjects included under this head, I can certify that your instruction has been most thorough, the different subjects kept well up to date and always made interesting.

In addition to your instructional duties you have still found time for original work and contributions to Scientific Journals.

Your departure will be specially regretted by myself, as, from our close intercourse for the past ten years, in the respective positions of Professor and Instructor of Science, I have learned to appreciate you as a Scientist, a sure help in points of difficulty, and a valued friend.

Believe me, my dear Waddell,

Yours very sincerely,

J. B COCHRANE.

May 29th, 1897.

XIII.

From ADAM SHORTT, M.A., *Professor of Political Science, Queen's University, Kingston, Ont.*

I have known Dr. John Waddell quite intimately for over ten years, and am able to testify with confidence to the many excellent features of his ability and character.

The thorough course of preparation for his work through which he has passed, and the distinctions which he has won, are sufficient evidence of his general ability and capacity to carry on advanced scientific work.

His interest in his work and his amiability of character tend to awaken the interest of his students and ensure a sympathetic treatment of their difficulties.

In all matters he maintains a tolerant and unprejudiced mental attitude. As a colleague he will be found most courteous and obliging.

ADAM SHORTT.

June 29th, 1897.

XIV.

From W. L. Goodwin, B. Sc., (*London*), D. Sc., (*Edin.*), F.R.S.C., *Director of the School of Mining, Kingston, Ont.*

Dr. John Waddell has long been known to me as a careful student, a successful teacher and one gifted with the power of original research.

Of his career as a student, I can speak in terms of the highest praise. His course in Edinburgh was brilliant; and he was there the winner of numerous prizes. My knowledge of him began in those years, and I have followed his career ever since, a period of some seventeen years. During that time he has grown steadily in his knowledge of the subjects of Chemistry and Physics. His acquaintance with the higher mathematics gives him an advantage in the treatment of physics and of that part of chemistry which lies nearest to physics, an advantage which is at once apparent in many of his published papers.

I consider Dr. Waddell unusually well qualified for a position in Physics or Chemical Physics. He has several times delivered courses of lectures to my honour students, so that I am in a position to judge with some accuracy of his qualifications in this regard.

Of Dr. Waddell's personal character I can speak from an intimate friendship of seventeen years. I have perfect confidence in him as an upright, clean-hearted gentleman.

W. L. GOODWIN.

June 21st, 1897.